

ASARCO

SF 3.3

Tacoma Plant

February 23, 1987

L.W. Lindquist
Manager

T.C. White
General Superintendent

R.D. Gallagher
Accounting Manager

Mr. R. F. White
U. S. EPA, Region 10
M/S 532
1200 Sixth Avenue
Seattle, WA. 98101

Dear Rick:

The asbestos survey described in your letter of February 5, 1987, has been completed, and a report has been submitted to me from Haz-Con, Inc. documenting the results. The results of this survey are attached. Results are expressed in percent chrysotile, amosite (asbestos fiber types) or "other", meaning non-asbestos material. Below is a list of additional locations or materials in which asbestos was found during the survey. Locations or materials not on the list but tested positive for asbestos have already been previously identified, and have either been removed, or are in the process of being removed.

A. Cottrell Area

1. Pipe Treater Building

- a. Inside on 2nd Floor - Mud on I-beam
Reference: Sample #8
- b. Top of building, directly underneath metal roof
Reference: Sample #61
- c. Thin layer of tar on outside of bricks
Reference: Sample #7

2. No. 1 Plate Building

- a. Directly underneath metal siding, east and west side
Reference: Sample #49, 50, 51
- b. Thin layer of tar on outside of bricks
Reference: Sample #45
- c. Tar felt material on roof of building

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USEPA SF



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3. No. 2 Plate Building

- a. Top Floor - Above middle two rows of elevated treaters -
Material between insulators
- b. Top Floor - Above middle two rows of elevated treaters -
Millboard pieces resting on treaters
- c. Thin layer of tar on outside of bricks
Reference: Sample #40
- d. Tar felt material on roof of building

4. Powerhouse

- a. Tar felt material on roof of building
Reference: Sample #53

B. Arsenic Plant Area

1. Metallic Arsenic Plant

- a. Insulation on beam above process area
Reference: Sample #39

2. Godfrey Roasting Area

- a. Oil and steam pipe lines on east side of three roasters
Reference: Sample #63, 64

3. No. 1 Flue

- a. Thin layer of tar on outside of bricks
Reference: Sample #60

4. No. 2 Flue

- a. Thin layer of tar on outside of bricks
Reference: Sample #35, 36
- b. Above flue - Far east end - Small amount of wrap on outside of pipe
Reference: Sample #63, 64

All asbestos materials that were identified in the above list will be removed in accordance with procedures described in the Site Stabilization Plan, Section II.C. Exceptions to this are materials identified as "tar on outside of bricks" and "tar felt paper on roof". Procedures for removing these materials will be described in separate documents which will be submitted to your attention.

Very truly yours,


Curtis E. Dungey
Senior Environmental Scientist

Sample Data Sheet

Firm: ROBERTS ENVIRONMENTAL

Location: ASARCO

Sampled by: _____

Date: 1-24-87

Analyzed by: MARIA K. MAJAR 114

Date: (rec.d) 1-27-87

Date complete: 1-27-87

Checked: _____

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|--|--------------------------|------------|------------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 161.1 | A01 | Steam & oil piping through middle pipe trtr bldg | | GRAY CARDBOARD MATRIX W/VISIBLE CURLY FIBERS | 30% | | |
| 161.2 | A02 | Cloth over insulation; same location as A01 | | GAUSE LINE MATERIAL, BRAIDED FIBERS TO MAKE A WOVEN MATERIAL | | | COTTON FIBERS |
| 161.3 | A03 | Pip treater; material inside on north face bldg | | GRAYISH WHITE MATRIX W/VISIBLE STRAIGHT FIBERS | | 40% | |
| 161.4 | A04 | Pipe treater North face, 3rd floor | | GRAYISH, HARD MATRIX TWO VISIBLE FIBERS CURLY AND STRAIGHT | | | CELLULOSE GLASS FIBERS |
| 161.5 | A05 | Pipe treater North face; 3rd floor | | BLACK TAR MATRIX WITH VISIBLE FIBERS WOVEN IN THE MATRIX | 15% | | |

* Code: CT= ceiling tile; SC = sprayed-on ceiling; SB = sprayed-on beams, MJ = Mud joint or elbow; PP = Preformed straight pipe insulation; CP = Corrugated pipe insulation; CAB = cement asbestos board; VAT = vinyl asbestos floor tile. All samples are analyzed by trained technicians participating in the EPA bulk analysis quality assurance program. Approximately 5% are cross-checked with other laboratories as well.

**Asbestos fibers



Sample Data Sheet

Firm: ROBERTS ENVIRONMENTAL

Location: ASARCO

Sampled by: _____

Date: 1.24.87

Analyzed by: MARIA L. MAYAR, IH

Date: (rec.d) 1.27.87

Date complete: 1.27.87

Checked: _____

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|--------|----------|---|----------------|--|--------------------------|------------|-------------------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 161.6 | A06 | Pipe treater; north face, 3rd floor | | BLACKISH-GRAY MATRIX W/ VISIBLE CURLY FIBERS W/ ^{W/} IN THE MATRIX | 25 | | |
| 161.7 | A07 | Pipe treater 2nd floor | | GRAY OUTER LAYER AND BLACK INNER LAYER W/ VISIBLE CURLY FIBERS | 15 | | |
| 161.8 | A08 | Pipe treater 2nd floor - mud on I-Beam | | GRAYISH MATRIX WITH VISIBLE FIBERS | 5% | | |
| 161.9 | A09 | Pipe treater - 2nd floor; felt material on door | | RED, BLACK, AND A YELLOWISH FIBERS MAKING UP THE ENTIRE MATERIAL | | | CELLULOSE |
| 161.10 | A10 | Pipe treater - 2nd floor - outside north face | Exterior | GRAY MUD COVERING A SPUN FIBERS. VISIBLE CURLY FIBERS IN GRAY MUD; SPUN FIBERS | 5% | | GLASS FIBERS SPUN MATERIAL |

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**Asbestos fibers



Firm: Roberts Environmental

Location: Asarco

Sampled by: Date: 1/24/87

Analyzed by: Maria K. Majar, IH Date: (rec.d) 1/27/87

Date complete: 1/27/87

Checked: MEU

Sample Data Sheet

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|--------|----------|--|----------------|---|--------------------------|------------|--------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 161.11 | 11 | #1 pipe treater outdoors, 2nd floor NW face | | Dull grey matrix with visible fibers, curly fibers woven into the matrix. Glass fibers make up most of the matrix | 10 | | Glass fibers |
| 161.12 | 12 | " " " " | | White hard but breakable matrix with visible fibers | 5-10 | | |
| 161.13 | 13 | Walkway roof between #1 pipe treater and plate treater (mud with chicken wire) pieces of amterial falling down | | Grey soft matrix with visible curly fibers | 50 | | |
| 161.14 | 14 | " " " " " | | Dirty grey matrix with curly fibers | 40-50 | | |
| 161.15 | 15 | #1 plate treater inside rows of "hoppers" (mud over chicken wire) | | White matrix with black glass blebs and straight visible fibers | | | Glass Fibers |

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Firm: Roberts Environmental Location: Asarco
 Sampled by: _____ Date: 1/24/87
 Analyzed by: Maria K. Majar, IH Date: (rec.d) 1/27/87
 Date complete: 1/27/87 Checked: MAJ

Sample Data Sheet

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|---------|----------|---------------------------------|----------------|---|--------------------------|------------|---------------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 161.16 | 18 | #1 Exit flue | | White plaster no visible fiber | | | Plaster |
| 161.17 | 19 | SW Ground floor #1 pipe treater | | Greyish matrix with visible fibers (Cable wrap) | | | Glass Fibers Cellulose |
| 1/25/87 | | Neil Callahan: (RUSH)----- | | | | | |
| | 16 | Boiler room connected to #1 | | CT | | | Wood Fiber |
| | 17 | " " " " " 2nd layer | | CT | | | Wood Fibers |

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Sample Data Sheet

Firm: Roberts Environmental

Location: Tacoma/ Asarco

Sampled by: Terry Lee Barksdale

Date: 1/29/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 1/30/87

Date complete: 1/30/87

Checked: MTM

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|---|--------------------------|------------|-------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 164.1 | 61 | Top of plate treater #1 directly under roof, very top of building | | brown chalky clay like material with visible curly fibers | 30 | | |
| 164.2 | 62 | Roof of treater ovens treater #2 top floor. | | White chalky board | 30 | | |
| | 63, 64 | Oil & Steam lines east side of Godfrey roasters in Arsenic Plant | | | yes | | |
| | | | | | | | |
| | | | | | | | |

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Sample Data Sheet

Firm: Asarco Location: Asarco
 Sampled by: Mike Krause CIH Date: 2-2-87
 Analyzed by: Maria K. Majar, IH Date: (rec.d) 2-2-87
 Date complete: 2-2-87 Checked: [Signature]

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|---|--------------------------|---------|-----------|
| | | | | | Chryso tile | Amosite | Other |
| 167.6 | 27 | Eastside arsenic storage bin. Tar on roof paper on overhang | | Black tar paper with visible fibers | | | Cellulose |
| 167.7 | 26 | Eastside arsenic storage bin. Tar paper offroof overhang. | | Black tar paper with visible brown fibers | | | Cellulose |
| 167.8 | 25 | Southside arsenic storage bin, Tar paper on roof over walkway | | Black tar paper with upper layer of gravel, lower layer tar paper | | | Cellulose |
| 167.9 | 24 | Southside of arsenic storage bin. Tar bottom edge of plywood wall. | | with visible fiber Black tar paper, with visible fibers | | | Cellulose |
| | | | | | | | |

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Sample Data Sheet

Firm: Asarco Location: Asarco

Sampled by: Mike Kravse, CIH Date: 2-2-87

Analyzed by: Maria K. Majar, IH Date: (rec.d) 2-2-87

Date complete: 2-2-87 Checked: [Signature]

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|--------------|---|----------------|---|--------------------------|------------|-----------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 167.1 | 28-1st Layer | NW corner arsenic storage roof overhang. Tar and roofing paper layered. | | Black tar paper brown visible fibers | | | Cellulose |
| 167.2 | 28-2nd Layer | NW corner arsenic storage bin roof overhang. Tar and roofing paper layered. | | Black tar paper brown visible fibers | | | Cellulose |
| 167.3 | 28-3rd Layer | NW corner arsenic storage roof overhang. Tar and roofing paper layered. | | Black tar paper brown visible fibers | | | Cellulose |
| 167.4 | 28-4th Layer | NW corner arsenic storage roof overhang. Tar and roofing paper layered. | | Black tar paper with visible white and brown fibers | | | Cellulose |
| 167.5 | 29 | Westside, tar paper from Demo. Floor orig, from under plywood floor. | | Black tar paper | | | Cellulose |

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Firm: Roberts Environmental

Location: Asarco

Sampled by: _____ Date: _____

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 1/31/87

Sample Data Sheet

Date complete: 2/4/87

Checked: *MMA*

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|--|--------------------------|------------|-----------------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 169.1 | 20 | SW Ground floor #1 pipe treater (Cable wrap) | | Black tar covering a coven mat with visible fibers | | | Cellulose |
| 169.2 | 21 | Rear of change house, tar paper | | Black tar paper with visible fibers | | | Cellulose |
| 169.3 | 22 | Same location as 21 mud over glass elbows and joints | | Dull white hard matrix with visible straight fibers | | | Glass fibers |
| 169.4 | 23 | Same as location 21 | | Loose brown matrix with wood clumps and visible fibers | | | Glass Fibers Wood Fibers |
| | | | | | | | |

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Sample Data Sheet

Firm: Asarco

Location: Tacoma/ Asarco

Sampled by: Terry Lee Barksdale

Date: 2/5/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/5/87

Date complete: 2/5/87

Checked: MM

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|---------------------------------------|--------------------------|------------|-------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 180.6 | 30 | East side #2 treater Bldg. | | Paint from building | | | No visible fibers |
| 180.7 | 31 | #2 treater | | White grey matrix with visible fibers | 30 | | |
| 180.8 | 32 | Pipe treater #1 inner roof of gas burner (Sample from Hanson) | | White grey matrix with Visible Fibers | | | |
| | | | | | | | |
| | | | | | | | |

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Firm: Roberts Environmental Location: Asarco
 Sampled by: Terry Lee Barksdale Date: 2/2/87
 Analyzed by: Maria K. Majar, IH Date: (rec.d) 2/2/87
 Date complete: 2/6/87 Checked: WAM

Sample Data Sheet

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|--|--------------------------|---------|---------------------------|
| | | | | | Chryso tile | Amosite | Other |
| 178.1 | 33 | Roof of treater #2 small roof directly below flue exit #2 3rd story | | Brick material with visible fibers | | | Glass Fibers |
| 178.2 | 34 | Same as 33 | | Black tar with visible Fibers | | | Glass Fibers Cellulose |
| 178.3 | 41 | 1st floor room below exit five #2 facing on oven brick | | Redish this "1/8" brick like material with no visible fibers | | | |
| 178.4 | 42 | Yellow flue below exit flue #2 plate treator #2 gasket around flue | | Brick like material with visible fiber; spun glass | | | Glass Fibers |
| | | | | | | | |

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Sample Data Sheet

Firm: Asarco

Location: Asarco

Sampled by: Terry Lee Barksdale

Date: 2/6/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/6/87

Date complete: 2/6/87

Checked: WFM

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|--|--------------------------|------------|--------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 179.1 | 35 | West wall #2 flue | | Black tar with visible fibers | 10-15 | | Cellulose |
| 179.2 | 36 | Roof of flues (1 & 2) | | Black tar with visible fibers inbedded in tar | 20 | | |
| 179.3 | 37 | Tar from top of flue arches roofed section clues | | Black tar with very few fibers | | | Glass Fibers |
| 179.4 | 38 | Same as location 37 | | Concrete mortar grey mortar with no visible fibers | | | |
| | | | | | | | |

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Firm: Asarco

Location: Asarco/Tacoma

Sampled by: Terry Lee Barksdale

Date: 2/6/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/6/87

Sample Data Sheet

Date complete: 2/6/87

Checked: *HAZCON*

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|---|--------------------------|------------|-------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 180.1 | 39 | Southeast of asbestos kitchen Metallic Arsenic Ana Insulation on Beam | | Black paper covering with a grey white matrix with visible fibers | 30 | | Glass Fibers |
| 180.2 | 40 | Plate treater #2 flue exit wall | | Black tar with fibers inbedded in the tar | 10-15 | | |
| 180.3 | 62 | Plate treater #2 oven door top floor. | | Orange yellow matrix with visible fibers | | | Glass Fibers |
| 180.5 | 44 | Treater #2 top of ovens between oven walls and top of oven | | Mortar material | | | No visible fibers |
| | | | | | | | |

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Firm: Asarco

Location: Asarco

Sampled by: Terry Lee Barksdale

Date: 2/9/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/9/87

Sample Data Sheet

Date complete: 2/10/87

Checked: [Signature]

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|---|--------------------------|------------|--------------------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 183.1 | 45 | Westside plate treater #1 30ft. up wall | | Tar with a green coating with visible fibers | 5 | | |
| 183.2 | 41 | Smaller yellow flue below exit flue #2 | | Material from flue gasket Grey white matrix with visible fibers | | | Glass Fibers |
| 183.3 | 46 | #1 plate treater #1, bottom of treater next to sample #15 | | Three different samples: | | | |
| | | | | 1. Dull greyish matrix | 10 | | Glass Fibers |
| | | | | 2. Paint like material | 10 | | Glass Fibers |
| | | | | 3. White hard matrix | | | Glass Fibers |
| 183.4 | 47 | #1 plate treater top floor east wall from floor | | Black tar with wood Wood clumps | | | Wood Fibers |
| 183.5 | 48 | Same location as 47 | | Wood matrix with cellulose and wood fibers | | | Wood Fibers Cellulose |

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Firm: Asarco

Location: Asarco/Tacoma

Sampled by: Terry Lee Barksdlae

Date: 2/9/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/9/87

Sample Data Sheet

Date complete: 2/10/87

Checked: WAM

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|--|----------------|---|--------------------------|------------|-------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 183.6 | 49 | Wall siding #1 plate treater east wall behind metal siding | | White powder matrix with visible fibers | | 40 | |
| 183.7 | 50 | Same location as 49 and 51 2nd layer beneath chicken wire. | | Grey dull matrix with visible fibers | 15 | | |
| 183.8 | 51 | Same location as 49 12ft. from bottom of building outer layer under metal siding | | Dull grey matrix with visible fibers | 20 | | |
| | | | | | | | |
| | | | | | | | |

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Firm: Asarco

Location: Asarco/Tacoma

Sampled by: Terry Lee Barksdale

Date: 2/10/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/11/87

Sample Data Sheet

Date complete: 2/11/87

Checked: [Signature]

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|--|--------------------------|------------|-----------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 187.1 | 52 | Small cinder block building next to Arsenic storage around duct | | off white board with visible fibers | | | Cellulose |
| 187.2 | 53 | Roof of electrical building <u>Powerhouse</u> | | Tar - with visible fibers inbedded in the tar | 15-20 | | |
| 187.3 | 54 | <u>Powerhouse</u> Electrical building, electrical panel | | Visible fibers in a black matrix | | | Cellulose |
| 187.4 | 55 | <u>Powerhouse</u> Electrical Bldg., electrical panel | | Cloth with black tar like material covering it | | | Cellulose |
| 187.5 | 56 | <u>Powerhouse</u> Electrical Bldg., electrical panel | | Wire insulation | | | Cellulose |

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Firm: Asarco

Location: Asarco/Tacoma

Sampled by: Terry Lee Barksdale

Date: 2/10/87

Analyzed by: Maria K. Majar, IH

Date: (rec.d) 2/11/87

Sample Data Sheet

Date complete: 2/11/87

Checked: [Signature]

| Lab # | Sample # | Sample location | Sample Source* | Material Description | Approximate % Fiber Type | | |
|-------|----------|---|----------------|--|--------------------------|------------|--------------|
| | | | | | ** Chryso tile | ** Amosite | Other |
| 187.6 | 57 | Northside of #2 flue insulation around pipe | | Insulation around pipe aircell | 15 | | Cellulose |
| 187.7 | 58 | Southside #2 flue (pipe run along eastside arsenic storage bldg.) | | Insulation around pipe, white powder with visible fibers | | | Cellulose |
| 187.8 | 59 | Roaster area cloth skirt around roaster | | Cloth skirt | | | Glass Fibers |
| 187.9 | 60 | #1 flue east arsenic kitchen | | Patch tar | 5-10 | | |
| | | | | | | | |

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